

Box Hill - Burma - Station - Baroda Intersection

Preferred option engagement

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Absolutely Positively
Wellington City Council

Me Heke Ki Pōneke

Purpose of this meeting



- Present decision-making process
- Present preferred option
- Discussion

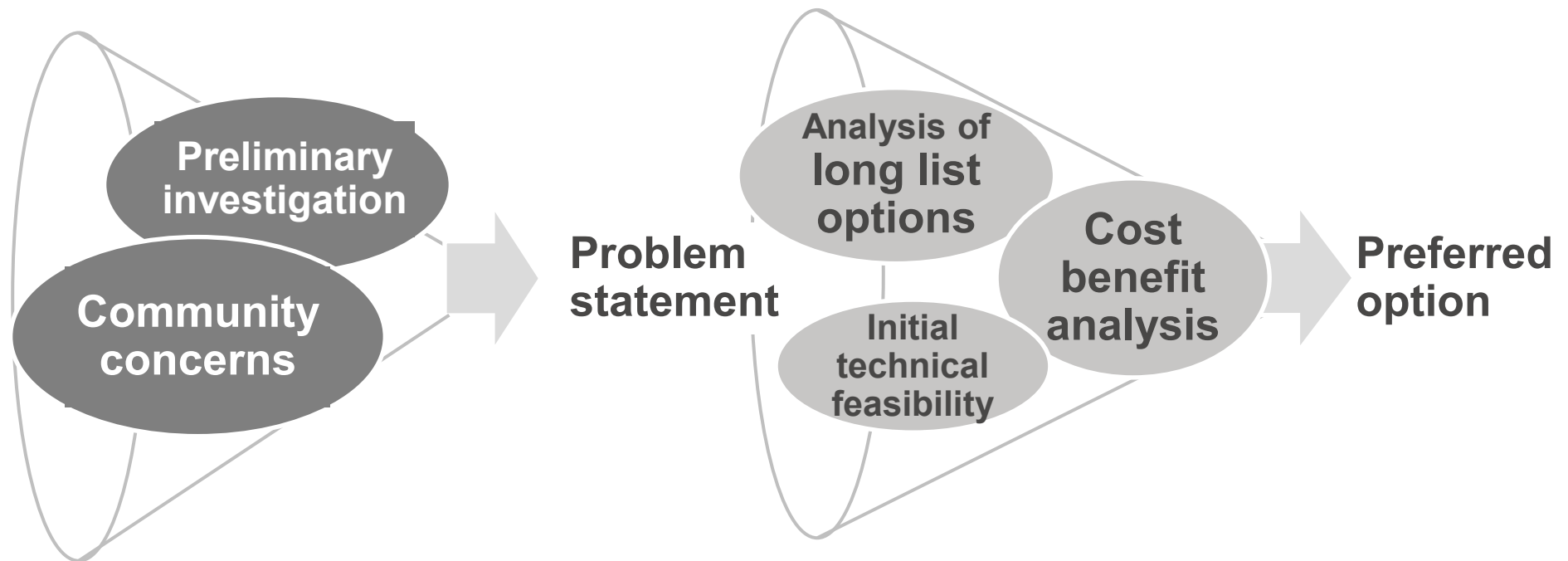
View looking south



Minor safety improvements done in previous years



Our decision-making process



What we've heard from you

E-petition (129 signatures) – ongoing safety concerns at the intersection:

- Pedestrian safety crossing the intersection
- Vehicle turning safety
- Congestion during peak hours

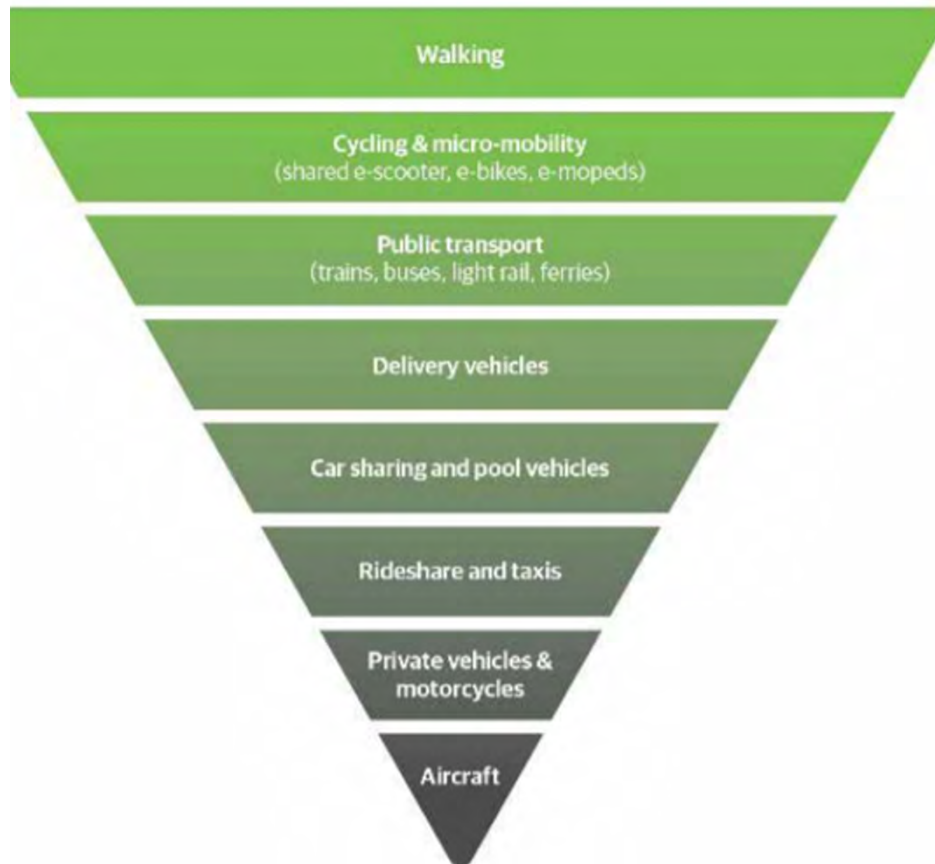
Online survey highlights (582 respondents)

Over 70% reported feeling unsafe around the intersection

The top five reasons identified were:

- Pedestrian concerns from vehicles speeding through the intersection
- Pedestrian concerns from vehicles not stopping at the zebra crossing
- Vehicle congestion during peak times
- Vehicles turning unsafely
- Busy activity on road and footpaths

Problem definition



1. Crossing facility and vehicle speeds reduce **pedestrian safety**
2. Crossing facility and vehicle speeds impair **pedestrian access** to train station and schools
3. **Traffic congestion** results in frustration and unsafe manoeuvres

Daily pedestrian volumes



Daily user volumes

Pedestrian volumes

Zebra crossing ~ 600
Station Rd crossing ~ 100
Baroda St crossing ~ 375

Traffic volumes

Box Hill ~ 14,000
Burma Rd ~ 12,000
Station Rd ~ 3200
Baroda St ~ 420

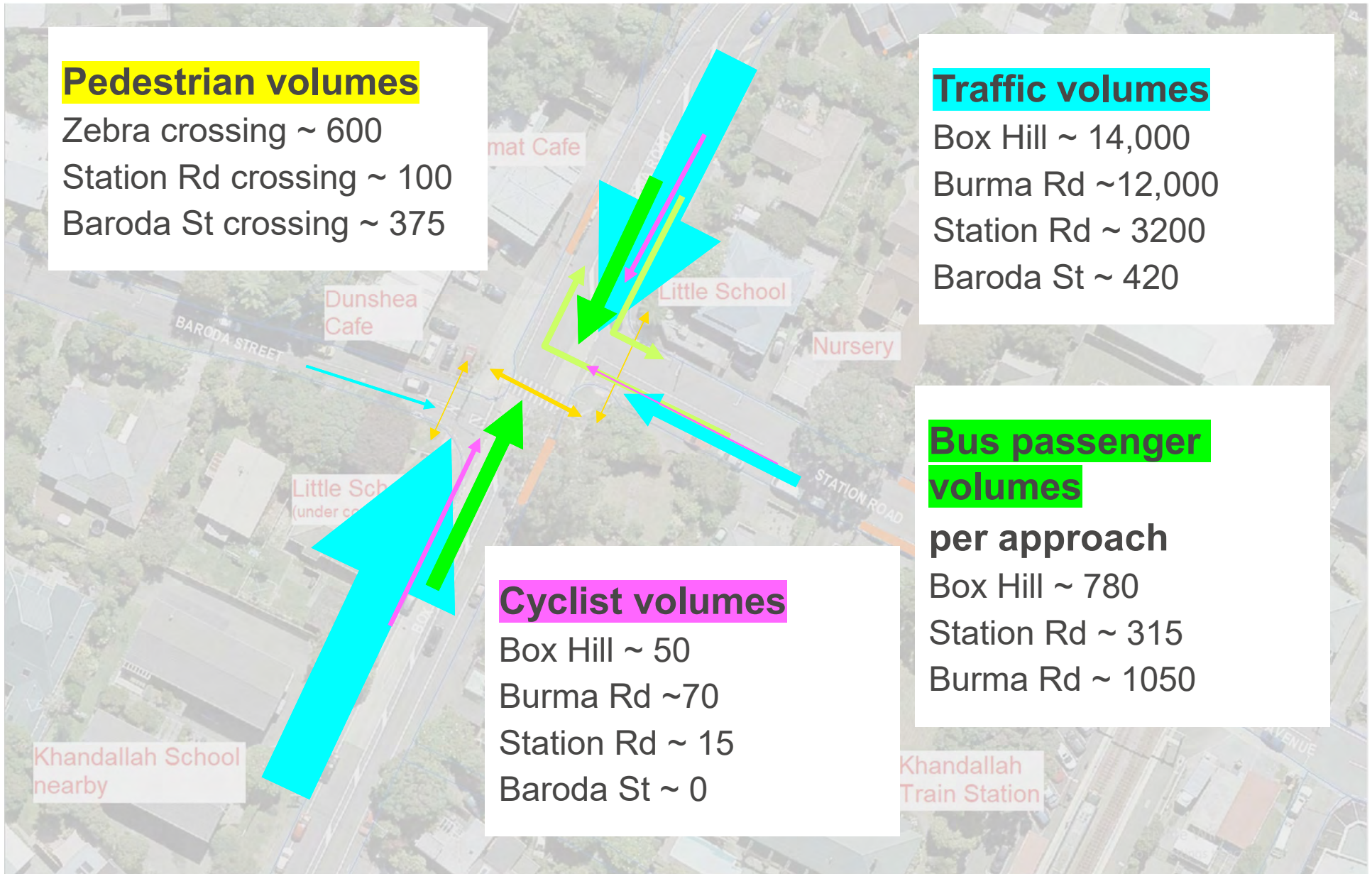
Bus passenger volumes

per approach

Box Hill ~ 780
Station Rd ~ 315
Burma Rd ~ 1050

Cyclist volumes

Box Hill ~ 50
Burma Rd ~ 70
Station Rd ~ 15
Baroda St ~ 0



Crash History 2010-2020

Six reported crashes past 10 years:

One serious injury (2012)

- **Pedestrian** crossing road hit by cyclist

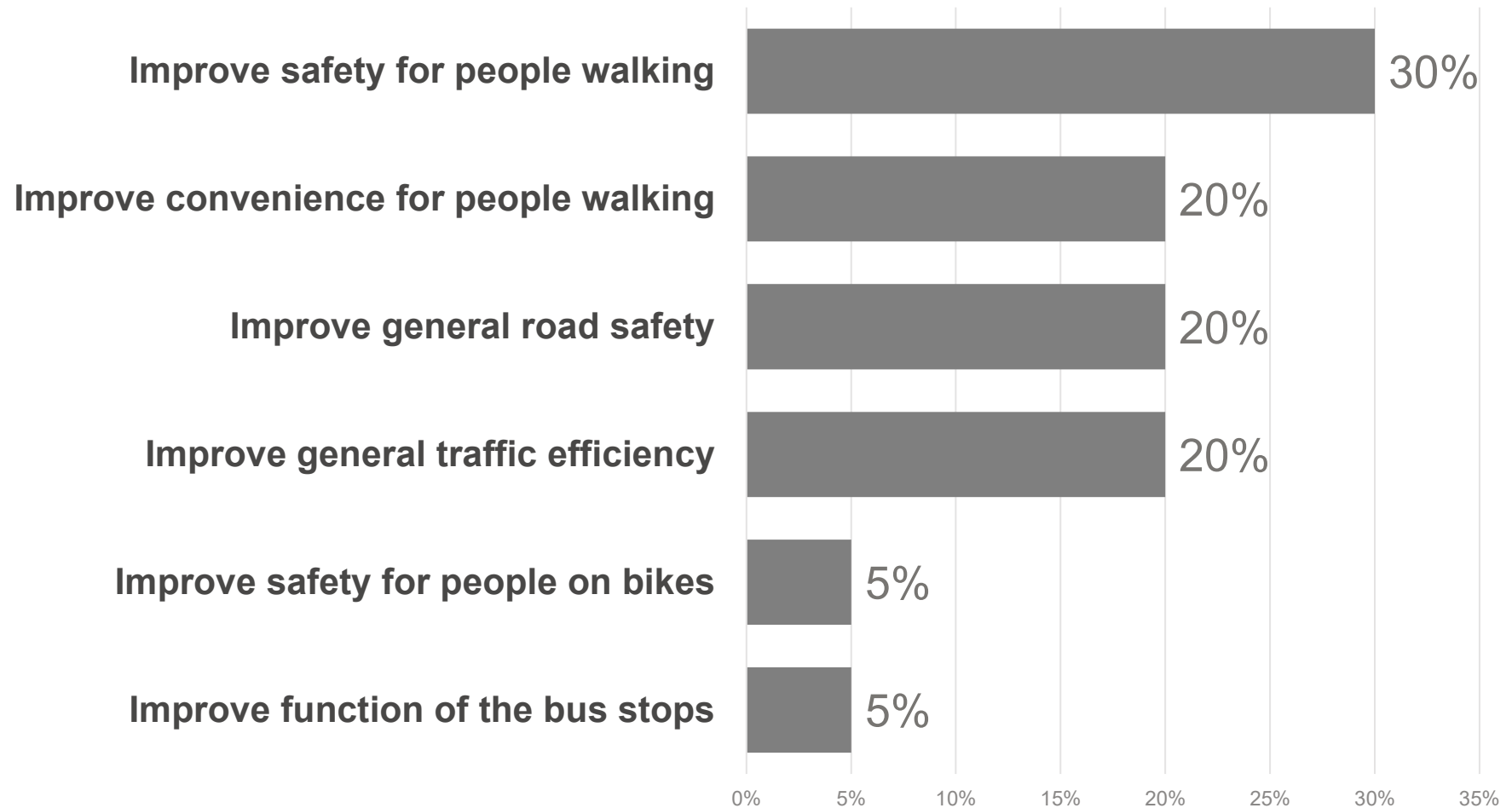
Three minor injury (2010/2014/2018)

- Turning **vehicle** rear ended by another vehicle
- Turning **vehicle** hit by another vehicle
- Turning **vehicle** hit by another vehicle

Two non-injury (2017):

- **Vehicle** rear ended at pedestrian crossing
- **Vehicle** rear ended at pedestrian crossing

Objectives and weightings



Multi-criteria analysis

Long-list
Do nothing
Minor improvements to the pedestrian zebra crossing
Minor road improvements to the Box Hill - Burma Rd approaches
Raise the zebra crossing at the current location
Relocate zebra crossing to the south
Relocate zebra crossing to the north
Raised table at intersection
Roundabout at Station Road
Signalised Mid block crossing at the current location
Signalised northern Mid block crossing
Signalised southern Mid block crossing
Signalised Box Hill - Station Road - Burma Road intersection (except Baroda Street)
Signalised full intersection
Convert Station Road to one way
Lower Speed Limit

15 options



Short-list
Raise the zebra crossing at the current location
Raised table at intersection
Signalised Mid block crossing at the current location
Signalised southern Mid block crossing
Signalised full intersection

5 options

Performance against objectives assigned score of -3 to +3

- Zebra crossing to south of Baroda eliminated due to visibility and grade requirements
- Other options eliminated due to poor performance against objectives and technical challenges

Key
Eliminated at this stage
Progressed to next stage

Short list option examples

Signalised whole intersection



Raised zebra crossing



Signalised pedestrian crossing



Raised intersection with zebra crossing



Safety benefits - short list options

Cost – low to high 

	Raised zebra crossing	Raised table with zebra crossing	Signalised Crossing current location	Signalised Crossing south of Baroda	Full Signalised Intersection
Vehicle vs. pedestrian	36% reduction	36% reduction	55% reduction	55% reduction	52% reduction
Vehicle vs. vehicle	36% reduction	36% reduction	No change	No change	52% reduction
Crashes avoided (10 years)	5.8	5.8	1.3	1.3	8.4

Travel time - short list options

Delay – morning peak (seconds)

		Raised zebra crossing	Raised table with zebra crossing	Signalised Crossing current location	Signalised Crossing south of Baroda	Full Signalised Intersection
Box Hill						
Pedestrians	7	-	-	+15	+39	+2
Vehicles	20	+2	+2	-10	-9	-2
Burma Rd						
Vehicles	51	+2	+2	-42	-41	-32
Station Rd						
Pedestrians	2	-	-	-	-	+37
Vehicles	69	-	-	-18	-2	-29
Baroda St						
Pedestrians	1	-	-	-5	-	-
Vehicles	16	-	-	-4	-3	+36

Travel time - short list options

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Eliminated

Value for money

Cost – low to high 

	Raised zebra crossing	Raised table with zebra	Signalised Crossing current location	Full Signalised Intersection
Is the option affordable?	✓	✓	✓	✗
Do the benefits outweigh the costs?	✓	✗	✓	✓
Do higher benefits outweigh higher costs?	✓	✗	✓	✗
Cost	\$58 k	\$182 k	\$211 k	\$448 k
Benefits	\$237 k	\$182 k	\$2.5 m	\$2.3 m
BCR	4.1	1.0	12.0	5.2
BCR on added spending	4.1	-0.4	15.0	-0.2

Value for money

Cost – low to high 

	Raised zebra crossing	Raised table Eliminated	Signalised Crossing current location	Full Signalised Intersection Eliminated
Is the option affordable?	✓	✓	✓	✗
Do the benefits outweigh the costs?	✓	✗	✓	✓
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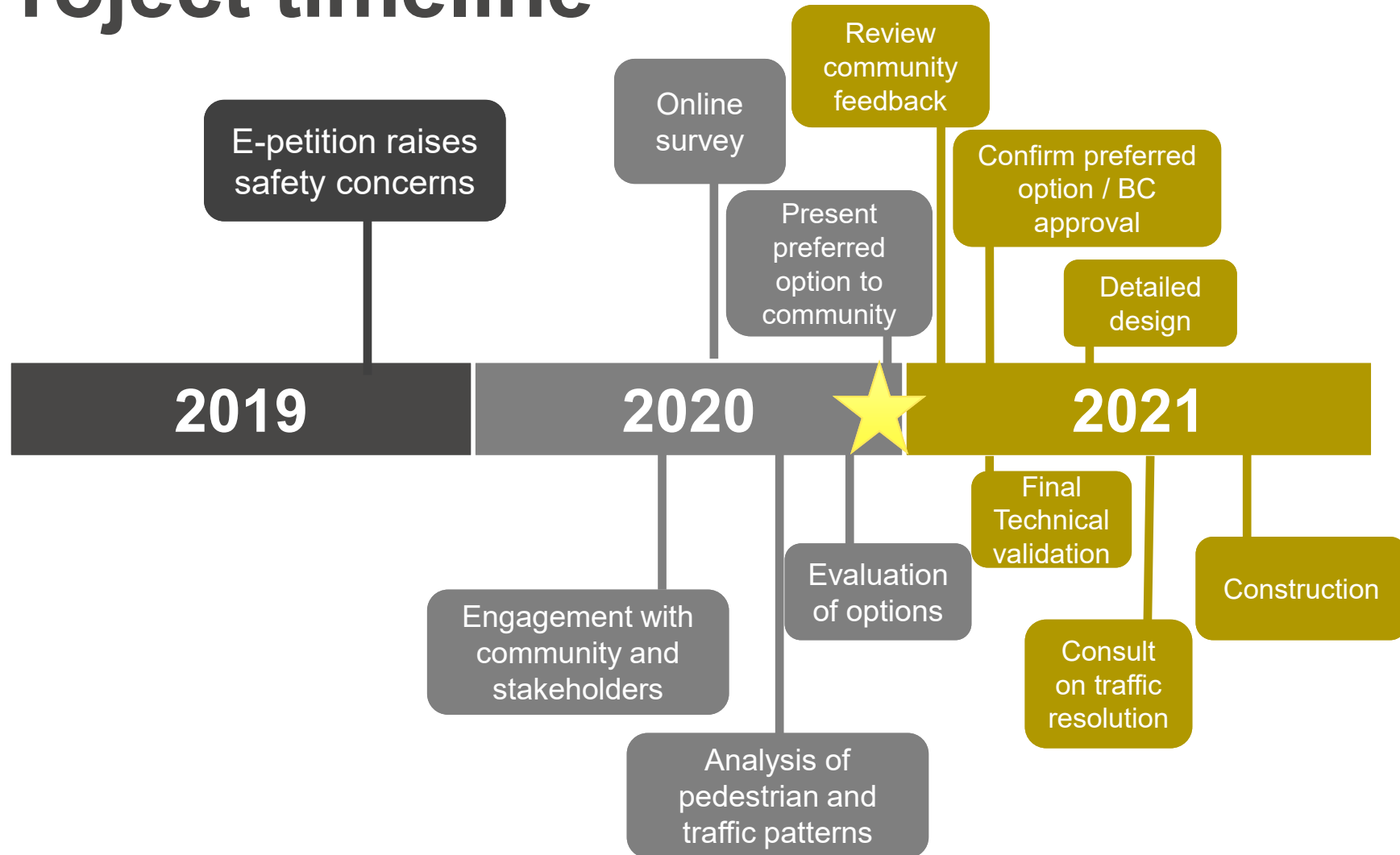
Preferred option: Signalising the zebra crossing

Proposed changes include:

- Signalise zebra crossing at its current location
- Install yellow cross-hatching to reduce vehicle conflict and reduce delays
- Extend kerb at Baroda to reduce crossing distance and install signal pole
- Replace give way with stop sign at Baroda to improve safety
- Install cycle stop boxes to improve cyclist priority



Project timeline

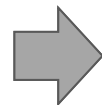


Summary process overview

Key
Eliminated at this stage
Progressed to next stage

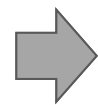
MCA
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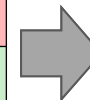
Technical feasibility
Raise the zebra crossing at the current location
Relocate pedestrian zebra crossing to the south
Relocate and raise pedestrian zebra crossing to the south
Raised table at intersection
Signalised Mid block crossing at the current location
Signalised southern Mid block crossing
Signalised full intersection

7 options



CBA
Raise the zebra crossing at the current location
Raised table at intersection
Signalised Mid block crossing at the current location
Signalised southern Mid block crossing
Signalised full intersection

5 options



Preferred option
Signalised Mid block crossing at the current location

End